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Special points of interest:

- Promotions announced
- TELE funds used to purchase new equipment
- Grants awarded
- Peng Fellowship instituted
- Undergraduate receives scholarship

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Jie Xiao to Join the Chemistry and Biochemistry Faculty as an Associate Professor

First Arkansas Research Alliance Scholar in Fulbright College

We are delighted to announce that Dr. Jie Xiao will be joining the faculty on January 1, 2016. Dr. Xiao specializes in the chemistry of batteries. She is currently on staff at the Pacific Northwest National Laboratory. Her work in batteries fits extremely well with University initiatives in energy and our department's growing strength in materials chemistry. Dr. Xiao has 17 granted or pending patents and over 70 publications.

Her appointment was sponsored by the Arkansas Research Alliance (ARA), a public-private partnership that strives to bring researchers into the state that help drive economic development. The governing board of research university chancellors and chief executive officers approved an offer to her early this summer. The ARA provides \$500,000 toward set-up costs, to be supplemented by University funds. Her appointment is one of two this year to the University of Arkansas, but the very first such hire in all of Fulbright College. These appointments were announced by the Governor in the state capital on August 13, 2015.

Dr. Xiao has received an adjunct appointment this semester and is already hard at work on grant proposals. She is also hard at work with a nine-month old daughter. We are looking forward to welcoming Jie Xiao and her growing family to Fayetteville this January!



Left to right: Jerry Adams, President of the Arkansas Research Alliance; **Jie Xiao**, our new ARA Scholar/Faculty member; Morten Jensen, new ARA Scholar in Biomedical Engineering; and UA Interim Chancellor Daniel Ferritor

Faculty News

On the Go

Matt McIntosh gave a talk, "New Rearrangement Chemistry of the Breslow Intermediate" at the workshop on Accelerating Reaction Discovery of the Telluride Science Research Center, July 27-30, 2015 in Telluride, CO.

Zong, G.-H.; Aljewari, H.; Zhou, J.-H.; Du, Y.-C.; Shi, W. "Investigation of ipomoeassin F towards chemical proteomics" ACS meeting, Boston, MA, US, Aug 16-20, 2015.

Whisenhunt, L.; Zong, G.-H.; Aljewari, H.; Shi, W. "Conformationally-controlled late-stage modification to facilitate SAR studies of ipomoeassin F" ACS meeting, Boston, MA, US, Aug 16-20, 2015.

Barber, E.; Zong, G.-H.; Aljewari, H.; Shi, W. "Total synthesis and biological evaluation of the C-II epimer of ipomoeassin F" ACS meeting, Boston, MA, US, Aug 16-20, 2015.

Feng Wang gave three invited talks: "Ab initio free energies for ion solvation from adaptive force matching." Feng Wang, Jilin University, Changchun, China, Aug. 10th, 2015. "Predicting solvation free energies of ions through adaptive force matching." Feng Wang, Dalian University of Technology, Dalian, China, Aug. 8th, 2015. "MP2 solvation free en-

ergy of ions from simple pairwise potentials." Feng Wang, Free energy calculations: Three decades of adventure in chemistry and biophysics, Snowmass, CO, July 6th to July 9th, 2015.

Chen, J. "Plasmonic-magnetic nanorods for imaging and therapeutics." Pacificchem 2015 meeting, Honolulu, HI; Oral (Dec. 15-20, 2015 invited talk).

Chen, J. "Understanding the interactions of theranostic gold-based nanostructures with complex biological environment." 2015 Joint Southeast/Southwest Regional Meeting, Memphis, TN; Oral (Nov 4-7, 2015, invited talk).

Publications

Chandrashekar, R; Adams, PD. NMR Spectroscopy Provides a Novel Bioanalytical and Biophysical Approach towards the Characterization of Protein Interactions Involved in the Integration of RAS Signaling. *J Anal Bioanal Tech* 2015, 6:5.

Zong, G; Barber, E; Aljewari, H; Zhou J; Hu Z.; Du Y; Shi WQ.* Total Synthesis and Biological Evaluation of Ipomoeassin F and its Unnatural IIR-Epimer. *J. Org. Chem.* 2015, in press.

Zonghua Ma, Jicun Li, Feng Wang. Continuous and Discontin-

uous Dynamic Crossover in Supercooled Water in Computer Simulations. *J. Phys. Chem. Lett.* 2015, 6:3170.

Bunnell, K; Lau, CS; **Lay, JO; Gidden, J**; Carrier, DJ. Production and Fractionation of Xylose Oligomers from Switchgrass Hemicelluloses using Centrifugal Partition Chromatography. *J Liq Chrom & Related Tech* 2015, 38(7), 801-809.

Packialakshmi, B; **Liyanage, R; Lay, JO**; Okimoto, R; Rath, N. Prednisolone-induced Predisposition to Femoral Head Separation and the Accompanying Plasma Protein Changes in Chickens. *Biomarker Insight* 2015, 10:1-8.

Jenkins, SV; Srivatsan, A; Reynolds, KY; Gao, F; Zhang, Y; Heyes, CD; Pandey, RK; Chen J. Understanding the Interactions between Porphyrin-Containing Photosensitizers and Polymer-coated Nanoparticles in Model Biological Environments. *J Colloid & Interface Sci* 2015, doi:10.1016/j.jcis.2015.09.037.

Xia, J; Zheng, J; Huang, D; **Tian, ZR**; Chen, L; Zhou, Z; Ungar, PS; Qian, L. New model to explain tooth wear with implications for microwear formation and diet reconstruction. *PNAS* 2015, 112(34): 10669-72.

Faculty Promotions

Twenty Fulbright College faculty members were promoted this year. Eight assistant professors were promoted to associate professor and received tenure, seven tenured associate professors were promoted to full professor, and five professors were promoted to the rank of Distinguished or University Professor. The department is proud to announce the promotions of Drs. **Susanne Striegler** and **Suresh Thallapuranam**. They both were promoted to the rank of Professor.

Dr. Striegler joined the faculty in 2012 as an associate professor with tenure. She was on the faculty of Auburn University from 2004 to 2012.

Dr. Thallapuranam (Kumar) came to the University of Arkansas in 2003 as a Research Assistant Professor, working with Professor Chin Yu. In 2006 he joined the faculty as an Assistant Professor, being promoted to Associate Professor with tenure in 2010.



Dr. Susanne Striegler



Dr. Suresh Kumar Thallapuranam

From the Chair - *Wesley Stites*

Another school year has kicked off and many of you probably heard that the University set yet another record for student enrollment. Growth is slower than in the past, but will be with us for a while. While a larger student body is definitely good for the state and brings advantages to the University, there is no question that it brings challenges as well. It can be very hard to find a classroom to meet in and open parking spots, never in overabundance, have gotten scarcer. But the real place it hits us is coping with larger numbers of students without a corresponding growth in faculty and graduate teaching assistants. Sections are bigger, which means more e-mails and office visits for those teaching those classes, at the expense of other duties. It means that for many of our classes, open response tests had to be replaced by multiple choice. It means drill section hours have been cut so we can provide labs. In the long term, we hope to grow both faculty and graduate teaching assistant positions to reverse course on some of these trends, but even that will come with other challenges. In particular, we will need more research lab and office space. Don't get me wrong, these are good problems to have, but we will be facing growing pains for years. The generosity of our alumni and friends has really made a difference in coping with growth. Whether it is finding money to support an additional grad student, or buy an office chair, gifts to the department have been very important in smoothing the inevitable bumps that have occurred as we have grown.



Thank you all for your support!

Alumni Tales

Michael Brannon, who did his graduate work in organic chemistry under Dr. Walter Meyer and received his doctorate in 1985, sent us an interesting story. After graduation, he worked briefly in the research department of Halliburton in Duncan, OK. In 1987 he returned to Arkansas to work for Eastman Kodak at their Batesville facility, working in process development and scale up. In 2004 he transferred to the Eastman Chemical Company site in Kingsport, Tennessee, shortly before the Batesville plant was sold and became Future Fuels Corporation. He continues to do process development and improvement work and supervises the operation of a continuous pilot facility consisting of two high pressure autoclaves with multiple recycle streams and feed systems. He is also working in process safety and serves on several different safety committees.

As to stories from graduate school..... he shares this tale.

"For those of you who did not have the opportunity to meet Dr. Meyer, he was a fairly serious gentleman of German descent with a deep booming voice and a full gray beard. I worked in lab 304 (might have been 302, not certain of the room number), which was a classical organic chemistry lab shared by graduate students of Dr. Meyer and Dr. Fry. Being classical synthetic organic chemists, we often worked with base metals and alkyl metals. Another student, who shall be referred to as "Bob", was also working for Dr. Meyer at the time. Bob was quite adept at starting fires in the lab, many of which were small, but some of which were more significant in nature. Bob also had small explosions on occasion.

One day when all the other grad students were at lunch, Bob managed to drop a liter flask that was over half full of hot diethyl ether onto a vacuum pump which happened to be running at the time. The ether flashed and about that time another grad student came back from lunch. Bob was lying on the floor with his clothes smoldering, so the other student grabbed a fire extinguisher and put Bob out. Although Bob's eyebrows and about half of his hair were singed off, Bob was uninjured other than a few minor burns on his hands.

Fortunately, Bob had only minor injuries, other than some possible damage to his eardrums after his discussion of the incident with Dr. Meyer. The other grad students in the lab felt like they should recognize the heroism of the student who extinguished the fire. The next day, the 5-6 other grad students working in the lab came to work with bright red t-shirts with Lab 304-Vol. Fire Dept. printed on them. The best part was when Dr. Meyer saw one of the t-shirts. As he read it, you could see him biting his lip and tears almost coming to his eyes as he fought to keep from laughing. He just turned around and walked away shaking his head. Bob didn't talk to any of the other grad students for nearly a month."

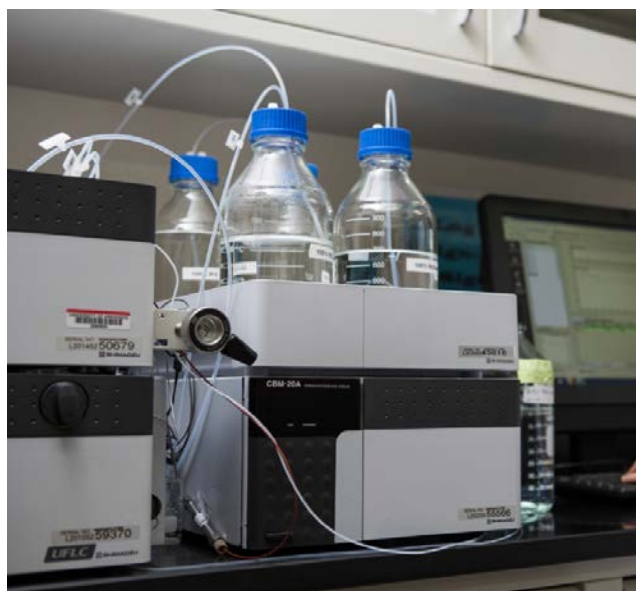
Dr. Brannon, it seems to us, owes Bob a great deal. It appears he was inspired to pursue a career in process safety because of him!

However, this story leads to a great safety tip. If you spill a large quantity of a very volatile, flammable solvent like ether with an extremely low flash temperature, CLEAR THE AREA. Do not clean it up; just do your best to ventilate the room on your way out the door. Stay out until the potentially explosive mixture has dissipated. Google "Fuel Air Explosive" if you are unsure about the reason for this advice. The flash point of ether? -39°C . Just 1.9% in air is enough to make an explosive mixture. And to top it all off, ether autoignites at a mere 160°C . You don't need a spark. A hot vacuum pump or hot plate will do just fine. So, should you spill a liter of ether, run, don't walk, to the nearest exit.

Do you have a heart warming tale of adventure and survival in the lab for which the statute of limitations has passed? Share it with us. Or if you just want to tell everybody what has been happening in your life, that works too.

TELE Funds Used for New Equipment

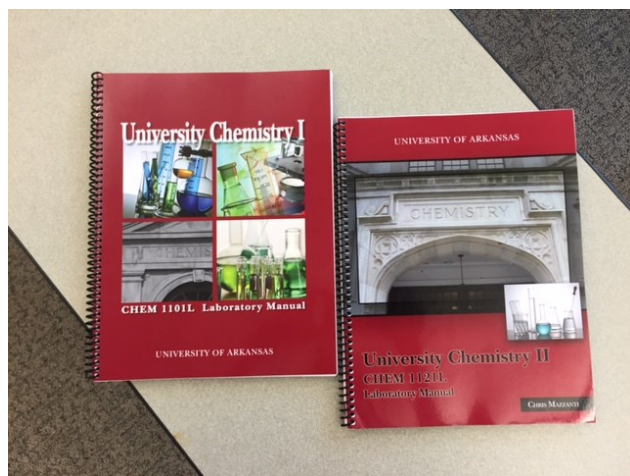
A special one-time allocation of over \$200,000 in Teaching/Laboratory Equipment Enhancement funds (TELE) was recently used to purchase badly needed new equipment for teaching labs. The pictures below show some of the new equipment in use in Discovery Hall. Twenty five top loading balances were placed in general chemistry labs, and four analytical balances were purchased for analytical labs. Thirteen UV/Vis spectrometers were bought for general chemistry and biochemistry use (analytical chemistry will use them also) and four FID GCs (flame ionization detector gas chromatography) were bought for organic labs. Three FTIRs (Fourier transform infrared spectrometer) will be used by organic and upper classes, all outfitted with diamond ATRs (attenuated total reflectance), and two HPLCs (high pressure performance liquid chromatography) for analytical use.



Photos courtesy of Matt Reynolds, Photographer
University Relations

New Lab Manuals for University Chemistry I and II

New lab manuals for CHEM 1101L and CHEM 1121L were developed by Chris Mazzanti with the students in mind. Neither he nor the department profit from the selling of the manuals to reduce the cost to the students. These manuals were over a year in the making and make editing much more streamlined than manuals have been in the past. This will affect approximately 1200 students each semester.



Chen Awarded Two Grants

A new federally funded research center led by the U of A will partner with Arkansas industries and create new products for use in manufacturing, aerospace and defense, agriculture, forestry, oil and gas, food packaging, and health care.

The Center for Advanced Surface Engineering will be funded with a \$20 million grant from the National Science Foundation through its Experimental Program to Stimulate Competitive Research (EPSCoR), which promotes scientific progress nationwide by establishing partnerships with government, higher education, and industry. Min Zou, who holds the endowed Twenty-First Century Professorship in Mechanical Engineering at the U of A will serve as the center's director. **Jingyi Chen** is one of 40 faculty members who will be involved.

Cancer biologist Robert Griffin (UAMS) and Physical Chemist **Jingyi Chen** (UA) received the non-pilot award from the Arkansas Breast Cancer Program. This project is to conduct a proof-of-concept experiment using a combined thermochemotherapeutic approach mediated by a targeted, drug-loaded, gold-based nanoconstruct for superficial breast tumor tissue. The Chen group will design and fabricate the controllable drug delivery device and work with the Griffin group to test the feasibility of this dual modal innovative therapeutic approach of photothermal- and chemo- therapies for the difficult disease breast cancer recurrence in the chest wall.

Arkansas Biosciences Institute Awards \$1.58 Million in Grants to UA Researchers

The Arkansas Biosciences Institute has awarded University of Arkansas researchers grants for 39 science and technology research projects for fiscal year 2016. The institute is a partnership of scientists at five research institutions across Arkansas, including the state's flagship university in Fayetteville, with a focus on supporting biomedical research and agricultural research with medical implications.

The fiscal 2016 grants at the U of A totaled \$1.58 million, said **Roger Koeppe II**, Distinguished Professor of chemistry and biochemistry, who represents the flagship on the institute's scientific coordinating committee. Institute-supported investigators explore many different body and cellular processes in their search for answers to challenging basic science- and health-related questions.

Koeppe said the institute chooses projects that are both innovative and may need preliminary results in order to compete for research funding on a national level, from agencies such as the National Institutes of Health or the National Science Foundation. "For each dollar of Arkansas Biosciences Institute funding, our faculty have been able to generate \$3 to \$4 of external funding," Koeppe said. "These grants provide a solid return-on-investment for the University of Arkansas."

Susanne Striegler, a professor of chemistry and biochemistry, was awarded an Arkansas Biosciences Institute grant for \$50,913 to evaluate the inhibiting effect of chemical compounds she synthesized in her lab on certain enzymes, to develop new tools for the diagnosis of Alzheimer's disease and the early detection of cancer. Striegler has received nearly \$700,000 in funding from the National Science Foundation and Arkansas Biosciences Institute since coming to the university in 2012.

Other UA chemistry faculty receiving grants are **Paul D. Adams**, **Jingyi Chen**, **Ingrid Fritsch**, **Colin D. Heyes**, **Matt McIntosh**, **Joshua Sakon**, **Wei Shi**, **Julie A. Stenken**, **Suresh Thallapuranam**, **Feng Wang**, **Charles L. Wilkins**, and **Nan Zheng**.



Susanne Striegler

Translating Cell Communication to Save Lives

Julie Stenken, an international leader in bioanalytical chemistry, works with National Institutes of Health to find links between cell communication and disease.

Seek and destroy. That's the job of the macrophage.

These large white blood cells exist in our bodies to engulf or digest foreign objects, typically a virus or bacteria. But when macrophages discover that they cannot eliminate a large object, such as an implanted glucose sensor, they call for help.

The macrophages communicate to other cells using proteins known as cytokines to signal for fibroblast cells to lay down collagen, a glue-like protein that can encase an object like a cocoon.

That immune response is beneficial, unless the foreign object being attacked is an implanted glucose monitor implanted in a diabetic person. The collagen build-up limits the life of the device and can put the diabetic patient at risk.

Julie Stenken, a bioanalytical chemist at the University of Arkansas, is working to change that.

As one of the world's leading experts in the area of *in vivo* collection of the proteins known as cytokines, Stenken has spent more than a decade researching this cell-to-cell communication.

"When I started with the biomaterials and wound-healing work 12 years ago, I started reading more about cytokines," Stenken said. "I soon realized I had landed in a diamond mine, research-wise. These signaling proteins are everywhere in the body and they are poorly understood and hard to measure directly from a living being. Our group is one of the few that measures cytokines on a daily basis."

Her research, funded by the National Institutes of Health and others, has focused on cell response to implants such as glucose monitors and biomaterials. Her work has also moved toward disease response, looking at the role cytokines and cell communication play in diseases such as Alzheimer's and Parkinson's.

"Many of the problems that scientists have encountered in the development of long-term implanted sensors have been due to the lack of understanding of the host response to implanted materials," Stenken said.

The number of diabetics in the United States is growing by an estimated 2 million a year. Extending the implanted glucose sensor's lifetime is crucial to the future well-being of both juvenile and adult-onset diabetics.

"If you had a glucose sensor that was better integrated into the body, where you could reduce the number of finger-stick calibrations, people would be more compliant with their insulin doses," she said. "It would be very helpful in managing their disease."

Stenken's research group uses a microdialysis probe that is placed under the skin of rats to mimic an implanted glucose sensor. The researchers use a unique process to infuse different agents through the probe to test ways to direct the macrophage response away from encapsulating an object to a slower, more gentle response associated with wound-healing.

Stenken also is using the microdialysis probe to study cytokines in the living brain. Cytokines are known to affect different human diseases, such as Alzheimer's, Parkinson's, alcoholism, epilepsy, multiple sclerosis and various psychiatric disorders.

"Cytokines are now considered the third-generation chemical communication system in the brain behind neurotransmitters and neuropeptides," Stenken said. "People have been very interested in cytokines in the brain because they're known receptors and they show up in many neurodegenerative diseases, including Alzheimer's and Parkinson's."

Stenken, the Twenty-First Century Chair in Proteomics in the J. William Fulbright College of Arts and Sciences, and her research group has received \$3.4 million in grant funding for its work related to cytokine measurements and modulation.

"The chemistry that happens in living human beings is so complex and so intertwined," she said. "I'm fascinated by the complexity of *in vivo* chemistry, and it's that incredible complexity, difficulty, and significance of these types of projects that drives our research questions."



UA Newswire

New Study Ties Tooth Wear in Fossils to Diet, Validating Decades of Research

Ryan Tian, professor of chemistry and biochemistry, collaborates on study

A team of researchers has validated data and found a new model for paleontologists to use to track the diet of our ancient ancestors and animals by analyzing the wear on their teeth.

Dental wear is among the top techniques scientists use to reconstruct and analyze dietary patterns of human ancestors and animals. Researchers recently questioned the validity of tooth-wear analysis, however, stating that environmental elements such as grit on food was likely responsible for wear.

"This challenge has led paleontologists to question decades of results," said Peter Ungar, Distinguished Professor and chair of the University of Arkansas Department of Anthropology. "Our findings validate the use of tooth wear for understanding diet of fossil animals. What does this tell us about diet? That habitat doesn't necessarily skew dental wear data." Ungar worked with **Ryan Tian**, U of A professor of chemistry, and researchers at the Tribology Research Institute at South-west Jiaotong University in China to verify the tie between tooth wear and diet.

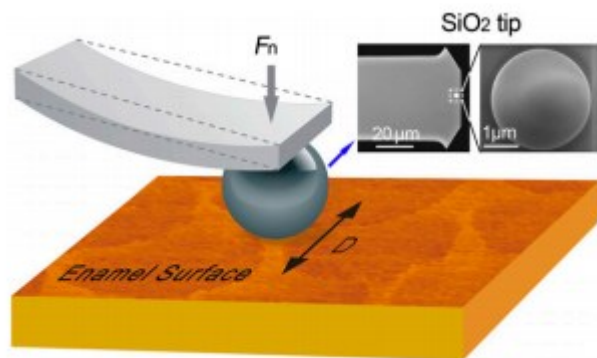
The Proceedings of the National Academy of Sciences published the findings in August.

"We found that materials softer than enamel can wear teeth," Ungar said. "This allowed us to develop a whole new way to model tooth wear."

Ungar explained that enamel is made up of particles bonded together by a protein glue. He and the team found through experiments that as chewing occurs, those bonds break and tiny enamel particles break away from teeth.

This finding validates the long-held premise that tooth wear can be related to specific types of diets and environments. For example, scratches on fossilized teeth indicate a shearing chewing motion used with tougher meats and plant-based diets. Pits in teeth indicate a hard and brittle natural diet such as animal bones or nuts.

"We determined that microwear is not just about grit in the environment," Ungar said. "There certainly can be a diet component to it."



The team's discovery opens the door to study the properties of other materials.

"What Mother Nature does in tooth enamel encourages us to revisit known theories in nanocrystal science, polymer, composite, biomineralization, self-assembly and surface science," Tian said.

The full article can be viewed at <http://www.pnas.org/content/112/34/10669.full.pdf>

Illustration showing the nanoscale wear test on the enamel surface. The SiO₂ microsphere with a radius of 1 μm moved horizontally on the enamel surface over a distance *D* under an applied load *F_n*. The upper right insets show SEM images of the SiO₂ tip.

Sakon Hosts Exchange Students

Two exchange students from the University of Okayama in Japan are spending three months in **Josh Sakon's** lab. They are Momoka Goda and Takahira Honda, and are medical students. **Ryan Bauer** (PhD candidate), **Mary Kate Tucker** (senior), **Jes Sanders** (BS '15), and **Dawn Weir** (BS '15) from the University of Arkansas have each spent 3 months at the medical school in Japan.



Student News

Peng Fellowship Innaugural Awardees Announced

This fall **Kai-Yang Leong**, **Beatrice Kackel**, **Dharma Nannapaneni**, and **Nandita Halder** have been awarded the Peng International Graduate Student Fellowship, with tuition support from the Octa Norman High Fund. This fellowship, which pays a stipend for living expenses, was established through the generous donation of Dr. Xiaogang Peng, formerly a tenured faculty member here, currently on faculty at Zhejiang University, and still an adjunct professor with us. Octa High graduated from the University in 1933 and taught high school chemistry for many years. She left an endowment to the department to pay tuition for deserving students when she passed away in 2005. All of these students are well along in their research projects and will hopefully be defending soon.

Kai-Yang Leong is working on two projects with Dr. Feng Wang. The first is investigation of the internal pressure of microbubbles, pressure distribution inside the bubble and possible breakdown of the Young-Laplace equation; important questions when interpreting results from ultra-fast free electron x-ray laser measurements. Kai-Yang's other project is calculating the transport of a tagged molecule in a strongly perturbed medium to answer a fundamental question in the Markovian State Model about the effect of removing long time correlation in the motion of the molecule.

Beatrice Kachel is currently working with Dr. Suresh Kumar on a research project aimed at developing new methods to facilitate rapid characterization of protein-ligand interactions using nuclear magnetic resonance spectroscopy. The method, developed by Bea, will also be useful for high throughput screening of potential drugs against proteins of biomedical importance.

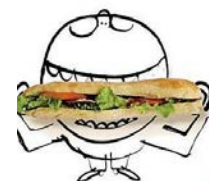
Dharma Nannapaneni is working on developing an industrially relevant Claisen rearrangement with Dr. Matt McIntosh. He has demonstrated that a thiazole-based Claisen rearrangement can be performed on scale and under mild conditions. Dharma's project is to convert the thiazole group into more generally useful functional groups, such as carboxylic acids, amides, ketones and aldehydes.

Nandita Halder is working with Dr. David Paul on in vivo glucose sensors. The application of in vivo glucose monitoring is limited by the availability of natural oxygen, which plays the role of a mediator in transferring the charge produced from the substrate-enzyme reaction to electrode surface. Nandita's project is to explore the possibility of placing an oxygen generating electrode at micro-range proximity to the glucose sensor electrode thus supplying natural mediator to the sensor and improving sensitivity and precision.

Congratulations to the inaugural group of Peng Fellows and best of luck on their research work this semester!

Departmental Fall Picnic

The department hosted a beginning of semester picnic for all faculty, staff, and students of the chemistry department. It was catered by Jason's Deli. There was plenty of food, fun, games, and explosions to enthrall even the very youngest. What would a picnic be without an explosion or two? Dr. Bill Durham made fog with dry ice, and even blew up a container of ping pong balls. Chemistry can be both fun and entertaining! Special thanks to Heather Jorgensen, office manager, for her organizational skills.



New Graduate Students in Department



The department is very pleased to introduce our newest graduate students for the fall of 2015. Fifteen students joined the department as Chemistry and Biochemistry graduate students. Six students joined as Cell and Molecular Biology students. Pictured at left, starting with the left side of the front row are: Alda Diaz-Perez, Nami-la, Jazlynn Wisener, Alexa May, and Kayla DeNike. The second row has Jacklyn Kubik, Randy Tran, Ryan Rogers, and Soumya Sivakumar. The third row has Zebulon Schichtl, Holly Wallace, James Lowe, and Aaron Nicholson. The back row has Blake Mertens, Christopher Ruth, Joshua Lochala, and Colin O'Donnell. Not present for the group photo were Alexis Hawk,



Colette Robinson, Quratulayn Ashraf, and Melissa Hirsch. (who is pictured at right).

Undergraduate Craig McLean Receives Scholarship



Craig McLean, undergraduate student in Paul Adams' lab, was recently awarded a \$2,000 scholarship from the American Society for Biochemistry and Molecular Biology (ASBMB) to recognize his academic accomplishments in the face of adversity and commitment to increasing educational access for underrepresented students. Craig was one of five students from across the United States to be honored with this scholarship. Upon receiving this award, Craig expressed his gratitude toward the department "for the opportunities that have been bestowed upon (him) and the mentorship of several faculty members during (his) tenure at the University of Arkansas." While under the tutelage of Dr. Paul Adams, he said he discovered his passion for science and has become excited about the challenges that await him as a graduate student. Dr. Adams provided him with the resources and guidance to become a better student and future scientist. In congratulating Craig, Dr. Adams said, "You have represented the work you are doing in our lab very diligently and with continued dedication, and a great developmental trajectory of critical thought." To view the press release from ASBMB, please go to <http://bit.ly/1TexWHi>.

Alumni Update

Kolawole Ayinuola (PhD 15) is working with a team tasked with nailing down the chemistry pathway to developing an isocyanate free foam with properties consistent with some of their medium density PU foams, at a price of \$2/lb or less. There are a couple of technologies that have been explored - cyclocarbonates+diamines, 2 part acrylate systems, etc., but none commercial. At present, they are close to making some prototypes, based on a unique technology. They are hopeful at this point. He is also involved in a TPU film development project for product packaging, which is really a supply chain driven initiative to reduce cost/maximize sales. His PhD in organic chemistry has been helpful in this project. But really, the opportunity of working in a cross-functional team consisting mostly of marketing and supply chain folks has been interesting.

In the midst of all of this, he and his wife Tolu'tayo are pleased to announce the birth of their son Ifeoluwaní Jedediah, born at 3:30 p.m. on Wednesday, August 19th, weighing 7 lbs, 8 oz and measuring 21 inches long. Kola is learning on all fronts; making foams, haggling price with suppliers, and more importantly, how to be Ife's dad.



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Department of Chemistry and
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Safety Tip:

by Bill Durham

Any spill of a significant amount of a flammable liquid greater than one hundred milliliters outside of a hood should be considered a serious threat and result in the immediate evacuation of the laboratory.



Department of Chemistry
and Biochemistry

Excellence in the Central Science

Calendar of Events

October

- 2 CUME - CHEM 144, 5:00 p.m.
- 5 Seminar: Katherine Willets, Temple University, 3:30 CHEM 144
- 12 Seminar: Mark Maupin, Colorado School of Mines, 3:30 CHEM 144
- 16 CUME - CHEM 144, 5:00 p.m.
- 19-20 Fall Break for students. Offices open
- 26 Seminar: Marc D. Porter, University of Utah, 3:30 CHEM 144

November

- 2 Fry Lecture Seminar: Kendall Houk, UCLA, 3:30 CHEM 144
- 6-7 INBRE Conference, Chancellor Hotel and Fayetteville Town Center
- 9 Seminar: Stephan Link, Rice University, 3:30 CHEM 144

The department of chemistry and biochemistry at the University of Arkansas strives for excellence in research, teaching and service in chemistry - the central science. We aspire to positions of leadership regarding the discovery of new scientific knowledge, the training of students, and the economic development of the State of Arkansas. We seek to recruit and retain a diverse group of the best faculty, students and staff to address the challenges of the future through interdisciplinary and multidisciplinary research and education.

Library Hours

Fall Semester Hours: August 23 - December 18

Saturday and Sunday	CLOSED
Monday - Thursday	8:00 am - 9:00 pm
Friday	8:00 am - 6:00 pm

Exceptions to Regular Fall Hours

Monday	Sept. 7 (Labor Day)	CLOSED
Friday	Oct. 16	8:00 am - 5:00 pm
Mon - Tues	Oct. 19 - 20 (Fall Break)	8:00 am - 5:00 pm
Tues - Wed	Nov. 24 - 25	8:00 am - 5:00 pm
Thurs - Fri	Nov. 26 - 27 (Thanksgiving)	CLOSED
Friday	Dec. 18	8:00 am - 5:00 pm
Mon - Tues	Dec. 21 - 23	8:00 am - 5:00 pm
Wed - Sat	Dec. 24 - Jan 1	CLOSED

The chemistry and biochemistry library resources can be accessed in the following LibGuides: <http://uark.libguides.com/content.php?pid=110953>. Please bookmark for future use. Theses and dissertation resources can be found on the following LibGuide: <http://uark.libguides.com/content.php?pid=123035&sid=1057466>.

Our departmental web page is located at Fulbright.uark.edu/departments/chemistry/. There you will find links to departmental information, news, and people. But best of all, alumni can stay in touch through the Alumni & Friends link. We want our alumni to stay in touch! Please take a few minutes to browse the page and submit any update you'd like published (or not). We welcome pictures too!



Save the Date!

The 2015 INBRE conference will be held November 6-7 in Fayetteville, AR.

CHBC Library (CHEM 225)
<http://libinfo.uark.edu/chemistry>

